

FIG. 1 (PRIOR ART)

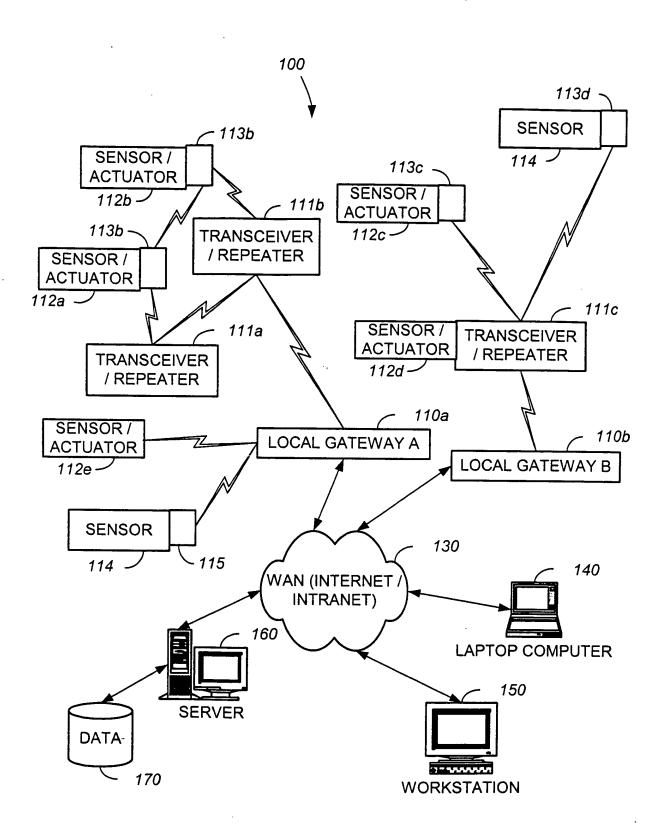
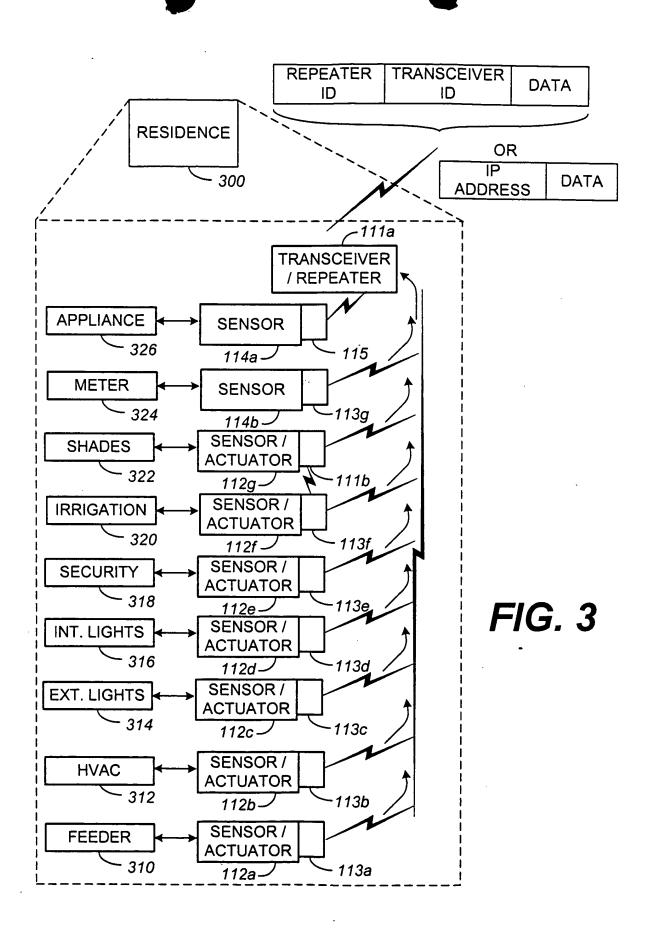
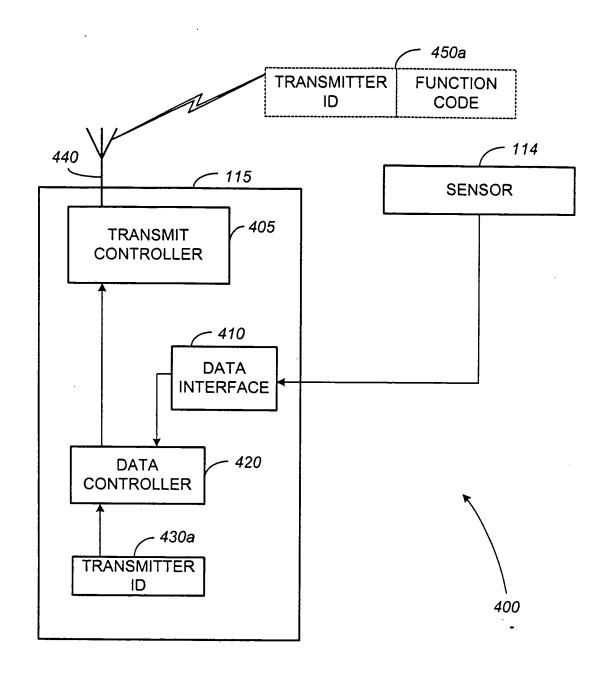


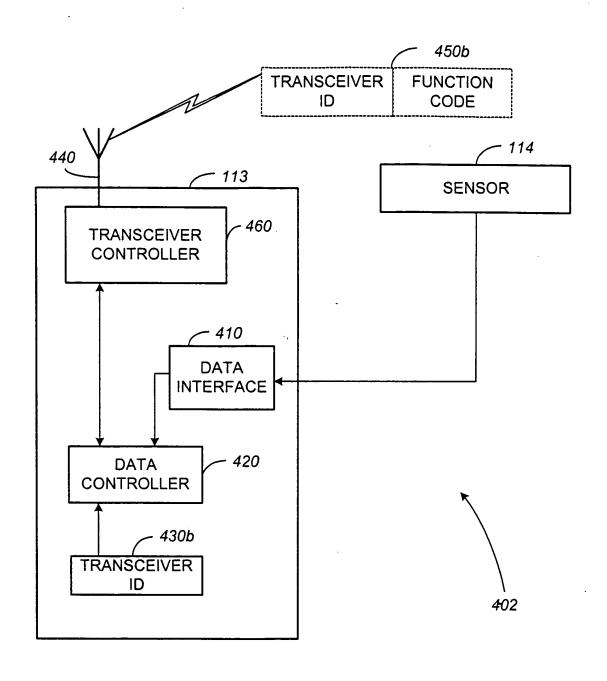
FIG. 2





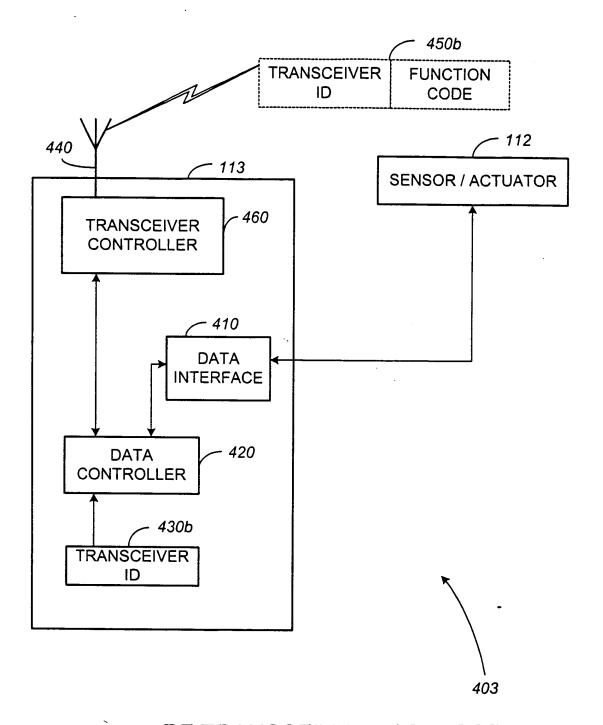
RF TRANSMITTER w/ SENSOR

FIG. 4A



RF TRANSCEIVER w/ SENSOR

FIG. 4B



RF TRANSCEIVER w/ SENSOR-ACTUATOR

FIG. 4C

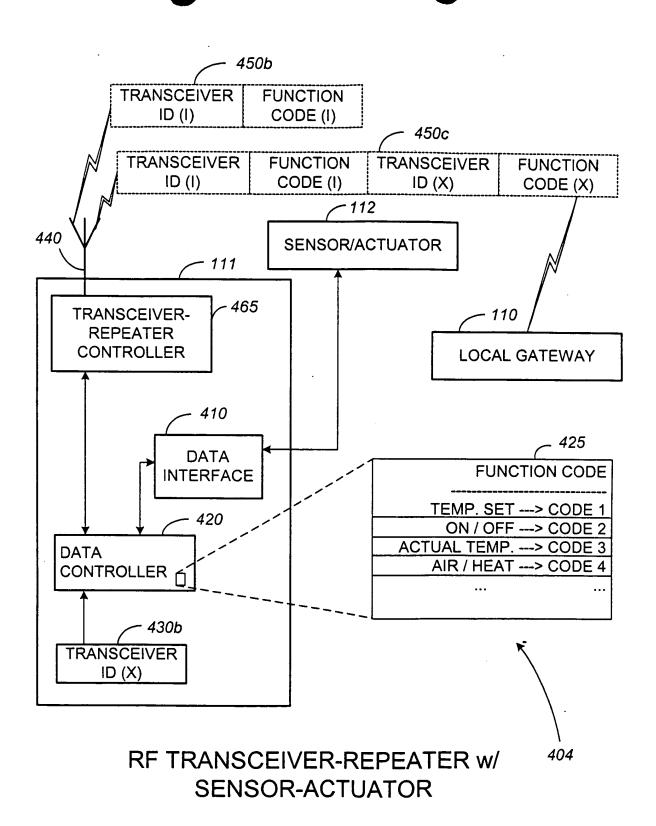
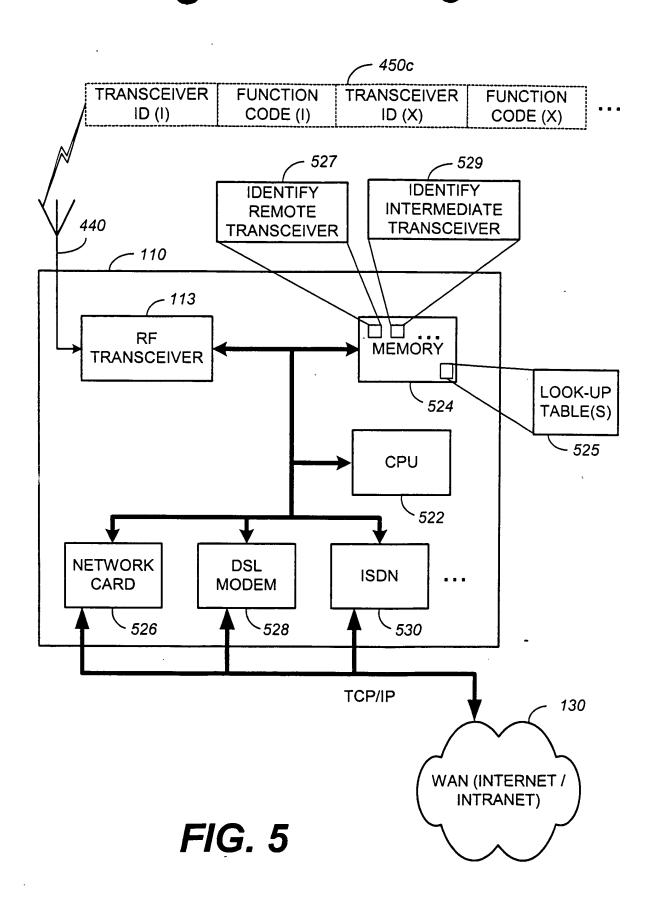


FIG. 4D



# FIG. 6

## MESSAGE STRUCTURE

To Addr.	From Addr.	Pkt. No.	Pkt. Max.	Pkt. Lngth.	Cmd.	Data	CkH	CkL
(1-6)	(6)	(1)	(1)	(1)	(1)	(0-238)	(1)	(1)

The order of appearance remains fixed although byte position number in each packet may vary due to one or more of the following reasons:

- 1. Scalability of the "TO ADDRESS" (1 to 6 Bytes).
- 2. The CMD Byte.
- 3. Scalability of the Data portion of the message (0 to 238 Bytes).

#### "To Address" Byte Assignment:

MSB - Byte 1 Device Type	FF-F0 (16) - Broadcast All Devices (1 Byte Address) EF-1F (224) - Device Type Base (2 to 6 Byte Address) 0F-00 (16) - Personal Transceiver Identification (6 Byte Address)
Byte 2 Mfg./Owner ID	FF-F0 (16) - Broadcast all Devices (Byte 1 Type) (2 Byte Broadcast Address)
	EF-00 (240) - Mfg./Owner Code Identification Number
Byte 3 Mfg./Owner Extension ID	FF-F0 (16) - Broadcast all Devices (Byte 1 & Byte 2 Type) (3 Byte Broadcast Address) EF-00 (240) - Device Type/Mfg./Owner Code ID Number
Byte 4	FF-F0 (16) - Broadcast all Devices (Byte 1 & Byte 2 Type) (4 Byte Broadcast Address) EF-00 (240) - ID Number
Byte 5	(FF-00) 256 - Identification Number
Byte 6	(FF-00) 256 - Identification Number

### "From Address" Byte Assignment:

From Address	(FF-00) Full "ID" of Originating Device (up to 6 Bytes)
Packet Number	(FF-00) Packet Number of Msg. longer than 256 Bytes
Packet Max.	(FF-00) Number of Packets in Message over 256 Bytes
Packet Length	(FF-00) Length (in Bytes) of Packet/Message Transmission*
Command	(FF-00) Command Byte
Data	(FF-00) Data as required by specific command
ChkH	(FF-00) Packet Checksum, High Byte
ChkL	(FF-00) Packet Checksum, Low Byte

\*Packet Length - 13 Bytes (Min.) / 256 Bytes (Max.)

## Sample Messages

Central Server to Personal Transceiver - Broadcast Message - FF (Emergency)

Byte Count = 12

To Addr.	From Addr.	Pkt. No.	Pkt. Max.	Pkt. Lngth.	Cmd.	CkH	CkL
(FF)	(12345678)	(00)	(00)	(0C)	(FF)	(02)	(9E)

First Transceiver to Repeater (Transceiver)
Broadcast Message - FF (Emergency)

Byte Count = 17

To Addr. From Addr. (F0) (12345678)		Pkt. Max. (00)	Pkt. Lngth. (11)	Cmd. (FF)	CkH (03)	1

Data (A000123456)

Note: Additional Transceiver Re-Broadcasts do not change the message.

The messages are simply received and re-broadcast.

Message to Device "A0" From Device "E1" Command - "08" (Respond to PING)
Response will reverse "To" and "From" Addresses

Byte Count = 17

To Addr.	From Addr.	Р#	P Max.	P Lngth.	Cmd.	Data	CkH	CkL
(A012345678)	(E112345678)	(00)	(00)	(11)	(80)	(A5)	(04)	(67)

FIG. 7

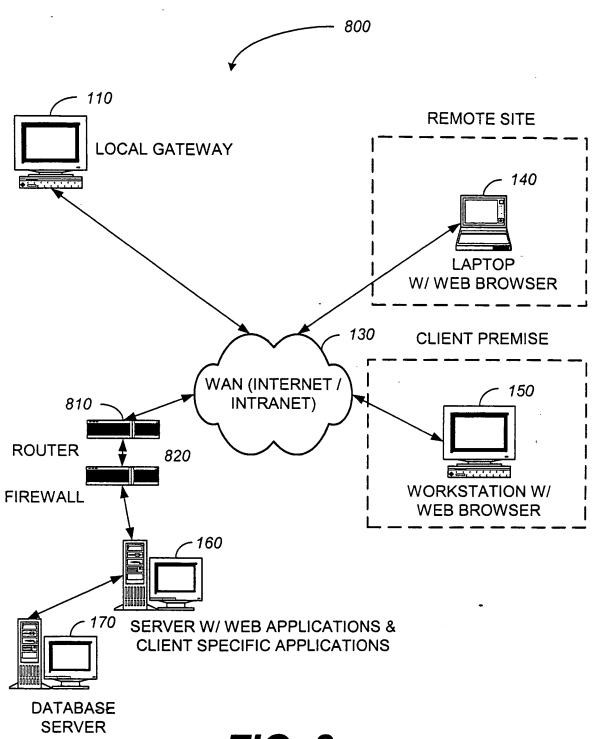


FIG. 8

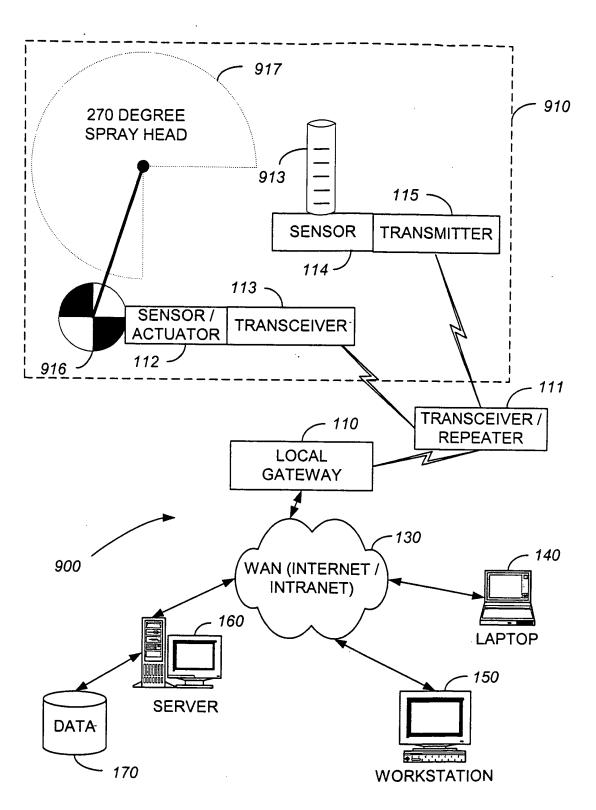


FIG. 9

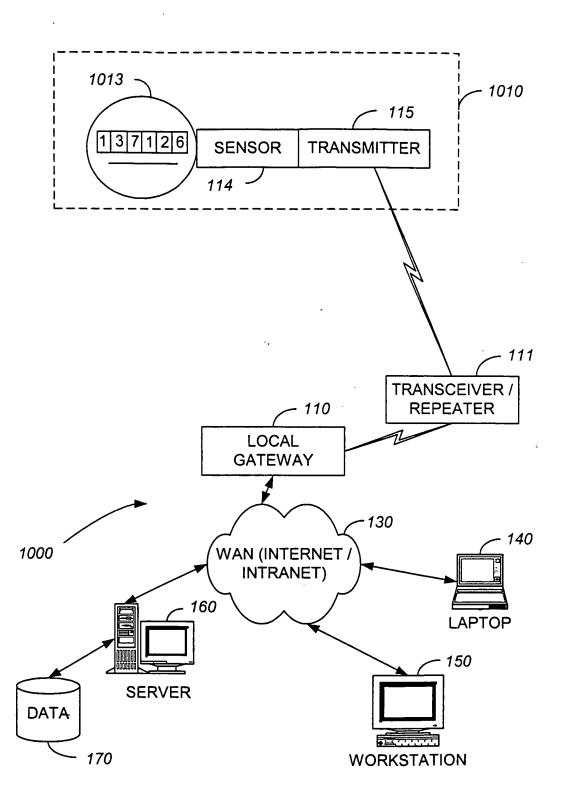


FIG. 10

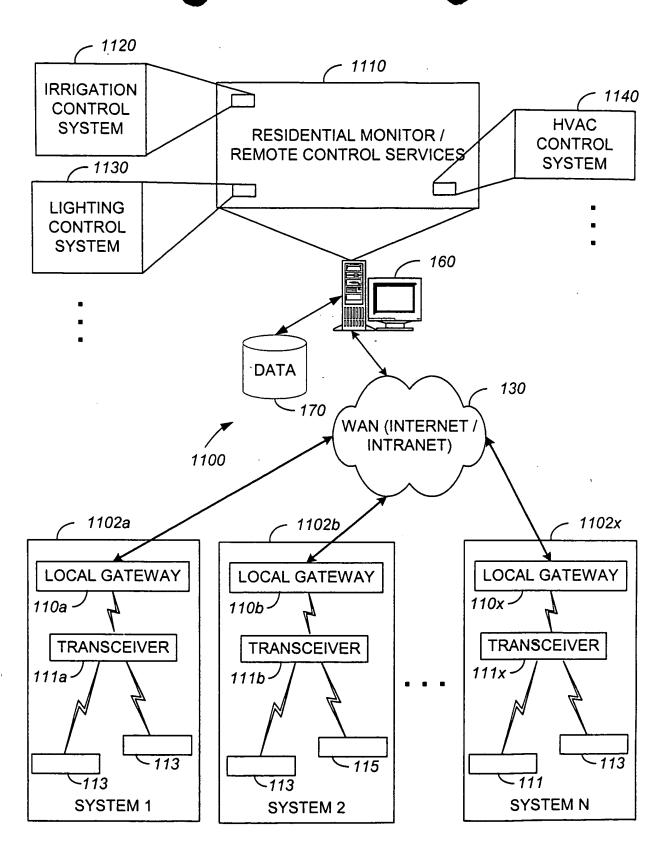


FIG. 11

HOME MONITOR		
843 GLENV	VOOD TRACE DR.	
THERMOSTAT		
MODE	AIR / AUTO 🔻	
TEMP. SET	<b>76 ▼</b>	-
TEMP. ACTUAL	75	
SECURITY SYSTEM	Armed▼	
INTERIOR LIGHTING	4	
FOYER	ON 🔻	
LIVING ROOM	OFF ▼	
KITCHEN	OFF ▼	
BEDROOM #1	ON 🔻	
•	•	
	•	
SMOKE DETECTOR		ļ
MODE	ACTIVE	
BATTERY HEALTH	GOOD	
GAS USAGE 354	4 8 2 MONTH TO DATE \$72.44	
ELECTRICITY USAGE 01		
WATER USAGE 774		ļ

FIG. 12A

HOME MONITOR	_
843 GLENWOOD TRACE DR.	
THERMOSTAT	
MODE AIR / AU	
TEMP. SET  AIR / FAN  HEAT / AUTO	
TEMP. ACTUAL HEAT / FAN	
SECURITY SYSTEM Ar OFF	
INTERIOR LIGHTING	
FOYER ON V	
LIVING ROOM OFF 🔻	
KITCHEN OFF 🔻	
BEDROOM #1 ON ▼	
•	
SMOKE DETECTOR	
MODE ACTIVE	
BATTERY HEALTH GOOD	
GAS USAGE 35482 MONTH TO DATE \$72.44	
ELECTRICITY USAGE 0 1 1 6 2 MONTH TO DATE \$122.44	
WATER USAGE 77414 MONTH TO DATE \$18.75	

FIG. 12B